Sessional Paper No. 10/1945.

COLONY OF THE GAMBIA.

ANNUAL REPORT OF THE DEPARTMENT OF AGRICULTURE FOR THE YEAR ENDING 31st MAY, 1945.

This is the sixth war-time report and is again presented in abridged form.

SECTION I.

Agriculture in the Colony and Protectorate.

Meteorology.

1. *Weather.*—There was a very prolonged cool season in the period under review lasting to May. Total rainfall for the season was considerably below the long term average:—The table below show four seasons' rainfall for four stations:—

	1941	*1942*	*1943*	*1944*
Cape St. Mary	31.8	47.02	49.92	36.55
Yoroberi-kunda	38.76	39.20	40.52	28.20
Wuli	45.76	36.88	40.46	38.00
Kerewan	—	43.85	53.48	31.57

2. The low total was mainly accounted for by a long dry spell in August which broke just in time to prevent severe damage to crops. Maize and early grains were affected and rice in many areas was an almost complete failure from lack of water. The area round Yoroberi-kunda in MacCarthy Island suffered considerably. The Wuli area was less affected by drought but suffered from some late heavy rains. Showers in October wetted groundnut stacks but little harm was done. On the whole there does not seem to be any evidence of decreasing rainfall. For the 16 years 1929-44 the Wuli average was 41.46: the first ten years averaged 42.05 and the second 44.30, the periods over-lapping two very high rainfall years—1935 and 1936. Only 29.11 inches fell in 1931. Wuli is about 250 miles inland. For Bathurst the last 50 years' records show no appreciable difference between the first and second half of the period—46.7 and 47.3 inches respectively. Peak rainfall years were 1893; 1905-6; 1923; 1936. Low rainfall years occurred more frequently—in 1897; 1902 (29.4 inches) 1911 and 1913; 1920, 1926; 1931; 1937 and 1941, the average interval being 6+1 or −1 years.

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Food Crops.

3. *General.*—The hungry season was again in evidence though not unduly severe. It did however force the people to start eating their 1944 early grains before they were quite ready and this, coupled with the bad yields of early maize, left a gap before the late grains came in. Owing to the high price (£12 0 0 per ton) for groundnuts there is a great temptation to farm groundnuts instead of cereals and the farmers in Upper River Division especially seem to have cut it rather fine hoping for a good growing season. Fortunately the practice of growing cassava is spreading and the people are beginning to realise its value as a famine reserve.

4. *Dry Grains.*—Yields of the early grains were adversely affected by the drought in August. Late grains were generally good, though rain damage occurred in Upper River Division.

5. *Rice.*—There is a tendency for the acreage to increase but the women have now about reached their maximum acreage with present methods of production. In the year under review there was a slight increase in the number of men growing rice and one or two strange farmers took up the work. Some progress was made in clearing mangrove for rice-farming. As a result of discussions at the Chiefs' Conference held on 20th March, 1945, it is hoped that the Chiefs will take active steps to get men rice farmers for the large areas of suitable swamp at present untilled. A distribution of 126 bags of improved seed from Sierra Leone was made and again proved popular. The season was adverse however, particularly in the Upper River where owing to loss from floods in the previous year, plantings were made on the higher swamps in 1944, thus increasing the effect of the general shortage of water.

6. *Vegetable Production.*—Dry season gardening was considerably handicapped by late arrival of seeds—the best of the season being gone before seed could be distributed. Interest has been maintained however; more use is being made of compost of which there is plenty in Bathurst and Bakau. The consumption of 'european' vegetables by the local people also continues to increase, onions being particularly relished.

Export Crops.

7. *Groundnuts.*—The 1944-45 season opened on 24th November, 1944, and by its close 43,167 tons had been purchased at the price of £12 0 0 per ton up-country and £12 10 0 in Bathurst, for undecorticated nuts.

8. The following quantities of groundnuts were exported:—

Calendar year 1944

Undecorticated	...	22,027 tons	valued at	£227,405
Decorticated	...	5,511 ,,	,, ,,	£93,270
			Total Value	£320,675

June 1944—May 1945

Purchases, undecorticated 43,167 tons valued at £518,004. Owing to the high price a great number of strange farmers came into the country, largely accounting for the increase of over 13,000 tons on last season's figure. Considering the number of able-bodied men who have gone from farming to other occupations the Gambia's effort in groundnut production can be considered highly satisfactory.

9 The quality of crop was on the whole satisfactory, though late rains when the nuts were in stack increased the percentage of mouldy nuts.

10. *Palm Kernels.*—The price was £10 10 0 per ton in Bathurst. Considerable propaganda to increase production was made. The quantity exported in the Calendar year 1944 was 768 tons valued at £8,877. Owing to better arrangements being made as regards supplying cloth against kernels production rose sharply in 1945. One firm bought over 240 tons in April and May 1945.

11. *Beeswax.*—The raw product was purchased at 2¼d per lb. In the calendar year 1944 the export was 39,747 lbs. valued at £2,764 as compared with 49,036 lbs. valued at £3,581 in 1943.

12. *Hides and Skins.*—In 1944, 788 cwts. valued at £2,012 were exported as compared with 573 cwts. valued at £1,195 in 1943. The only source of supply is from Bathurst slaughterings. Up-country hides go to Portuguese territory where the price is very much higher.

Pests and Diseases

13. *Locusts.*—A small number of swarms of the Desert Locust appeared in January—mostly on the north side of the river. Little damage was done, and there was no breeding.

14. No other pests or diseases of crops assumed importance.

SECTION II.

Work of the Department of Agriculture.

15. The policy of the Department continued along the lines described in former reports, the main effort being to attain self-sufficiency in food while maintaining exports.

16. *Rice.*—The position regarding the Rice Station remains the same as described in last year's report—no Rice Officer having yet been secured. A small Rice Mill has been obtained but has not yet been tested. The distributions of improved seed from Sierra Leone continued to be popular—especially the variety ' Lead ': 126 bags were distributed. A small scale trial of cattle cultivation of rice flats was carried out at Bulok with very satisfactory results—no weeding being necessary on these flats.

17. *Other Food Crops.*—At the Department's Experimental Station at Yoroberi-kunda field experiments gave statistically significant results in the following cases:—

(i) Maize. Yellow variety yielded better than ' White '.

(ii) Millet-spacing. On average soils 3 foot spacing was better than 2 foot or one foot.

(iii) Millet and Guineacorn. Ridging gave slightly better yields than flat planting and reduced hand weeding.

Wheat (Alkama) was tried on a small scale at the windmill irrigated site at Cape St. Mary and yielded 300 lbs. per acre of good grain.

Notes of cost of production of some food crops in 1944 at Yoroberi-kunda. Costs are given in man-days of 8 hours and cattle-days of 4 hours.

Maize.		*Coos.*		*1 year Cassava.*	
m.d	c.d;	m.d	c.d;	m.d	c.d
28;	6;	20;	2½;	40;	2

Average Yields in 1944 lbs/acre.

Maize.	*Coos.*	*Green Gram.*	*Cassava.*
(on cob)	(on head)	(shelled)	(Fresh roots)
414	675	54	2 tons 17 cwts.

Value of these yields per acre

£1-14-6	£2-16-0	—	£26-12-0

Groundnuts gave 24½ bushels—about half the yield of combined best plots. Best millet 1,230, best guineacorn 1,023 lbs. on head per acre.

Notes on Layouts. Random blocks and Bevins ½ Drill Strip proved effective designs.

18. *Vegetable production.*—As already mentioned most of the seeds arrived too late for the best of the gardening season. The onion seed from Madeira had lost germinating capacity almost entirely by the time it reached the Gambia. The quantity of seeds distributed amounted to 150 lbs. The amount of seed produced by Departmental gardens showed a considerable increase. Onions, lettuce, beans, radish and cauliflower seed were produced. Carrots

also set seed at Cape St. Mary for the first time. It will be interesting to see if this seed will germinate. The purchase and grading of vegetables grown at Georgetown was continued. A Windmill for irrigating dry season gardens was erected at Cape St. Mary and worked satisfactorily, though the yield of the well was not quite enough to make full use of the mill. The villagers for whom flats were laid out observed operations with the usual marked absence of enthusiasm but late in the season a few women led the way and the site became very popular. Good results should be obtained next year.

19. *Fruit trees.*—Fruit trees seedlings and grafted plants distributed from nurseries at Cape St. Mary amounted to 1,809. Nurseries were developed at Berending and Kerewan and a nursery area laid out at Abuko to supply future needs in the Kombo Development area.

20. The demand for ornamental trees and plants continued high. Over 5,000 were distributed.

21. *Bee-Keeping.*—At Yoroberi-kunda and Bulok several hundred double-chambered hives, with queen excluder were made and distributed. They were mostly woven grass hives but some wooden hives were also made. The Jola people are the best bee-keepers and there is a good prospect of development amongst them once they have lost their distrust of ' new-fangled ideas '.

Local Industries.

22. *Soap.*—Soap manufacture continued on a small scale but the increasing quantities of imported soap coming on the market make the prospects of this industry poor.

23. *Groundnut Oil.*—Groundnut oil production continued to be carried out by Syrian traders on a fairly large scale. Additional hand presses have been received.

24. *Tomato Puree Manufacture.*—The machinery for this arrived in May 1945 and if a suitable building can be provided, operations should begin next dry season.

25. *Spinning.*—Two Achimota spinning wheels were received and one demonstration given. It is hoped to train cotton spinners in the use of these wheels if a suitable teacher can be found to tour the protectorate.

Maintenance of Fertility and Animal Husbandry.

26. *Mixed Farming.*—There is little progress to report on this—mainly owing to the difficulty of combating disease in working cattle. A scheme has been devised for the training of ex-

soldiers in cattle-keeping and mixed farming. If the amount of loss through pleuro-pneumonia, haemorrhagic septicemia, and ' tryps ' can be reduced through careful management and feeding the scheme will have a good chance of success. A great deal of knowledge of working cattle under Gambian conditions has been secured at Yoroberi-kunda.

27. *Dairying Industry.*—Butter making has been very successfully developed at Yoroberi-kunda—largely due the services freely given by the wives of agricultural officers on the station. Some of the crude equipment has been replaceed by better and the acquisition of a suitable refrigerator has made churning and storing of cream and butter a very much easier problem.

28. During the period under review the cream supplied from outside sources amounted to 1340 lbs. A separating unit in operation for a few months at Kolikunda was closed down owing to the small supply of milk. A very successful unit was started at Sare n'Gai where there are many cattle. Yoroberi-kunda village cattle owners continued to bring milk to the station for separating. The total butter produced was 1,200 lbs. This industry is capable of further expansion—demand for butter still exceeds supply and the cattle owners are well satisfied with the price of 1/- per lb. of cream plus skim-milk which they receive. Shortage of suitable staff is however still a limiting factor in development.

29. *Piggeries.*—The small Departmental piggery at Fajara had a successful year and the demand for breeding stock was maintained,—beyond the capacity to supply. The number of pigs sold was 24 and on 31st May, 1945, 21 remained on hand. The small reserve herd at Yoroberi-kunda lost its foundation stock from an unknown disease which caused the death of 5 pigs within a fortnight. They all apeared in good condition. The young stock were not affected. On them, feeding experiments were begun with promising results trial production of ham and bacon is envisaged in the near future. The ' mixed farming ' at Fajara piggery—vegetables being grown on the paddocks vacated by pigs, continued to be very successful. Our main difficulty in pig-keeping continues to be the supply of food of kinds not used or not needed for human consumption.

Export Crops and Produce Inspection.

30. The groundnut inspection system worked smoothly on a record crop for recent years. On the whole the crop was fairly clean. Mouldy nuts were rather prevalent at some centres. This could easily have been avoided if farmers had taken the trouble to open their stacks after rain. In spite of much advice few of them troubled to do so.

31. Variety trials at Yoroberi-kunda showed the varieties Basse and Sir Charles superior to other varities tested, with little to choose between these two. Further trials will be restricted to these two varieties to simplify statistical control. Accuracy is essential in this work if a superior yielding variety is to be distributed on a wide scale to farmers. Such a variety as Basse if generally grown would probably raise the total crop by several thousand tons in a 40,000 ton year. The economic value of such experimental work is obvious. Experiments on cultivation methods were also continued at Yoroberi-kunda. Rather contrary to expectation ridge was superior to flat planting. This result needs further verification. Costs of production at Yoroberi-kunda in 1944 was man days 25, cattle days 2¼ per acre. The average yield 682 lbs. undecorticated per acre: the best flat yielded 1,262 lbs/acre.

32. Efforts have been made to inspect more thoroughly village seed nut stores and see that they are filled adequately. This is the only way in which the present absurd system of farmers buying back their own nuts at planting time can be abolished.

33. The small quantity of 207 lbs. of vine-rubber (the plant is now very rare in the Gambia) came forward. It was a fair quality and fetched one shilling per lb. on the home market.

Agricultural Education.

34. Six learners were in training at Yoroberi-kunda. Two had to be dismissed as unsuitable for anything other than low grade clerical work. The others made considerable improvement in the year under review and began to show considerable interest in lines of study which bore immediately on their practical work. Their great difficulty continues to be their poor command of English and woeful lack of any background knowledge. This unfortunately they take little pains to remedy by general reading. Ten vacancies for learners remain unfilled. It will be quite impossible to enlarge the activities of the Department unless suitable men come forward.

One scholarship holder is at present in Nigeria, reports as to his progress have not yet been received.

35. *Dry Season Produce Shows.*—Only two shows were held during the season, one at Sukuta near Cape St. Mary and one at Georgetown. Late arrival of seeds was responsible for the decline of interest in many villages. For both shows there was a good array of vegetables though the number of exhibits was smaller than usual. At Sukuta a demonstration of the use of the Achimota Spinning wheel was given. The local cotton seemed rather unsuitable for spinning without carding but many women made determined efforts to master the quite unfamiliar technique.

Agricultural Surveys.

36. Arising out of the village-by-village rapid survey made of the North Bank Division in 1944 an effort was made to study in detail the life and work of Yoroberi-kunda village. Abridged notes of the salient facts brought to light were circulated as an appendix to minutes of a meeting of the Nutrition Committee (Meeting of May 18, 1945). At this meeting Dr. B. S. Platt, Colonial Office Nutrition Specialist, discussed nutrition survey work and it was decided to recommend to Government that the survey work at Yoroberi-kunda should be continued and expanded, with the Nutrition Assistant doing the food and dietary and family economy side and the Agricultural Officer doing the crop production and yields side, and general agricultural investigation.

Staff.

37. Mr. E. W. Leach—Senior Agricultural Superintendent—finished his term of secondment and proceeded on leave on 7th July, 1944.

Mr. J. H. Palmer, Agricultural Superintendent, assumed the duties of Acting Senior Agricultural Superintendent from 7th July, 1944, until 31st January, 1945, when he went on leave.

Mr. J. Gordon, Agricultural Superintendent, was Acting Senior Agricultural Superintendent from 31st January 1945, until the close of the period under review.

Mr. T. Jones-Stevens, Agricultural Superintendent, arrived in the Colony from Nigeria on 12th October, 1944. He took over Yoroberi-kunda station and district duties from Mr. J. Gordon on 23rd December, 1944.

38. The European staff on 31st May, 1945, consisted of:—

In the Colony.

Mr. J. Gordon—Acting Senior Agricultural Superintendent.
Mr. T. Jones-Stevens—Agricultural Superintendent.
Mr. J. H. Palmer—Agricultural Superintendent—On leave.
There were three vacancies remaining unfilled.

39. With one officer finishing his term of secondment in July 1945 and one officer with but six months' experience of conditions in the Gambia, the staff problem in the near future looks like becoming more serious than at any time during the war.

40. Creation of Joint Department with Sierra Leone.

A joint Department with Sierra Leone was formed in principle, in February 1945, though as yet the Director of Agriculture, Sierra Leone, has not had an opportunity of visiting the Gambia and advising on the work.

SECTION III.

Omitted.

SECTION IV.

41. *Legislation.*—None directly concerning agriculture was effected during the period under review.

JAMES GORDON,
Acting Senior Agricultural Superintendent.

30th May, 1945.

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